

Abstract

Methods and devices are provided to actively apply finish to one or more yarns in motion at speeds greater than about 3000 m/min, to achieve a finish application of 0.2 wt.% or more, and with a coefficient of variation of finish concentration of 10% or less. The devices are compact, portable and readily installed at a variety of positions on a fiber processing line. The devices of the invention contain the finish so that contamination of the surrounding areas is prevented.

The devices may be used to provide an overfinish to a moving yarn between heated godet rolls. The so-provided heating may be used to dry the yarn and to promote curing reactions in the finish and between the yarn and finish compounds.

The invention also includes the finished yarn products so produced. A yarn with increased finish uniformity is provided with an overfinish actively applied and dried on the draw bench before the first winding operation. The yarn products of the invention may be used in textile and leisure fiber applications, and in industrial fiber applications, such as in tires.